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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,450	02/23/2002	Jian Zhu	Li 25	8324

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AKIN GUMP STRAUSS HAUER & FELD L.L.P.
ONE COMMERCE SQUARE
2005 MARKET STREET, SUITE 2200
PHILADELPHIA, PA 19103

EXAMINER	
MERED, HABTE	

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/082,450	JIAN ZHU ET AL	
	Examiner	Art Unit	
	Habte Mered	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 2* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/23/02&6/15/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 and 2 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claim 1** is rejected under 35 U.S.C. 102(e) as being anticipated by Lee (US 6, 335, 930).

Lee discloses a multi-stage interconnection network, which has N input ports and N output ports.

Lee discloses a method for routing packets through a switching network, wherein the switching network includes multiple stages of switching elements **(See Figure 6)**, each one of the switching elements receiving packets as local input packets on its input ports and producing packets as local output packets on its output ports **(See Figure 6, elements 603-2, 604-2, 605-2, 606-2 and Figure 7. See also Column 8, Lines 50-65)**, each of the packets having a plurality of in-band control signals where each one of the in-band control signals is utilized **(Figure 8, Column 11, Lines 40-55)** in a corresponding one of the switching elements as the local in-band control signal for the corresponding switching element to make switching decisions, the method comprising

coding each one of the in-band control signals of the packets into a plurality of bits based on a predetermined coding algorithm **(Figure 14, Column 15, Lines 59-67 and Column 16, Lines 14-25)**, and generating, with reference to the coding scheme, the output bits of the local output packets at each one of the switching elements based on a subset of the bits in the corresponding one of the in-band control signals for said each one of the switching elements to route the local input packets arriving at the corresponding switching element. **(See Figure 7 and the explanation on Column 10, Lines 10-65)**

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6, 335, 930) in view of Holden et al (US 6, 445, 705), hereinafter referred to as Holden and Lyles (US 5, 602, 844).

Holden discloses a multi-stage ATM switch with multicasting capability.

Lyle discloses a self-routing crossbar switch to be used for ATM purposes.

Lee fails to disclose that each one of the switching elements is a bicast cell.

Holden discloses that each one of the switching elements in his ATM switch is a bicast cell. **(First, the Applicant defines bicast cell as simply a switching element**

capable of conducting multicast operation as can be verified in the and paragraph 627 of the specification. Holden discloses each of his switching element are capable of conducting unicast operation (See Section 6) and multicast operation as stated in Column 11, Line 40)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lee's apparatus to incorporate switching elements with multicasting capability. The motivation being switching involves both multicast and unicast traffic in large volumes and ATM architecture is the best solution because of its scalability and performance as stated by Holden in Column 2, Lines 12-15.

Lee also fails to disclose that the local input packets to each one of the switching elements includes idle, 0-bound, 1-bound and bicast packet types wherein each one of the packet types corresponds to a distinct in-band control signal, the coding includes coding each of the in-band control signals by at least two bits, and the coding algorithm includes coding the bits such that the first bit of the code for the in-band control signal corresponding to a 0-bound packet type is different from the first bit of the code for the in-band control signal corresponding to a 1-bound packet type.

Lyle teaches that the local input packets to each one of the switching elements includes idle **(See Column 3, Line 54)**, 0-bound **(Simply means pass through to next stage on the same level as indicated in Column 4, Lines 20-29)**, 1-bound **(A cross –connect occurs based on the operation described in Column 4, Lines 445- 51)** and bicast packet types wherein each one of the packet types corresponds to a distinct in-band control signal **(Bicast packet is simply a multicast packet and a switch**

similar to that of Lyles can distinguish such packets), the coding includes coding each of the in-band control signals by at least two bits **(See Figures 3 and 6 and Column 4, Lines 55 to 65)** and the coding algorithm includes coding the bits such that the first bit of the code for the in-band control signal corresponding to a 0-bound packet type is different from the first bit of the code for the in-band control signal corresponding to a 1-bound packet type. **(See Figure 8, Column 5, Lines 1-5)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lee's apparatus to incorporate switching elements that distinguish the type of local packet based on the state of the switching element. The motivation being Lee states the importance of quickly identifying a faulty element as stated in Column 5, Lines 34-40 and Lyles discloses using the state of the switching element based on the type of input packet a failure can be quickly diagnosed as stated in Column 2, Lines 48-51.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Habte Mered whose telephone number is 571 272 6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HM
11-26-2005